

Plahvatuse summutamise süsteemid

Explosion suppression systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14373:2005 sisaldab Euroopa standardi EN 14373:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.11.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14373:2005 consists of the English text of the European standard EN 14373:2005.</p> <p>This document is endorsed on 25.11.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard describes the basic requirements for the design and application of explosion suppression systems. This European Standard also specifies a method for evaluating the effectiveness and the scale up of explosion suppression systems against defined explosions.</p>	<p>Scope:</p> <p>This European Standard describes the basic requirements for the design and application of explosion suppression systems. This European Standard also specifies a method for evaluating the effectiveness and the scale up of explosion suppression systems against defined explosions.</p>
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ICS 13.230

Võtmesõnad: marking, mathematical calculations, mounting, packages, packing, performance, prevention, safeguarding, safety, safety engineering, sample surveys, specification (approval), specifications, suppression, surveillance (approval), testing, testing devices, tests

ICS 13.230

English Version

Explosion suppression systems

Systèmes de suppression d'explosion

Explosionsunterdrückungs-Systeme

This European Standard was approved by CEN on 16 August 2005.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This European Standard (EN 14373:2005) has been prepared by Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard describes the basic requirements for the design and application of explosion suppression systems. This European Standard also specifies a method for evaluating the effectiveness and the scale up of explosion suppression systems against defined explosions. It gives the criteria for alternative test apparatus used to undertake explosion suppression efficacy tests and criteria to be applied in defining the safe operating regime of an explosion suppression system.

It covers:

- general requirements for explosion suppression components;
- evaluating the effectiveness of an explosion suppression system;
- evaluating the scale up of an explosion suppression system;
- evaluation and development of design tools for explosion suppression systems;
- instructions for installation of an explosion suppression system;
- maintenance instructions for an explosion suppression system.

This European Standard is applicable only to explosion suppression systems intended for the protection of closed, or essentially closed, enclosures in which an explosion may result as a consequence of ignition of an explosible mixtures, e.g. dust-air mixtures, gas(vapour)-air mixtures, dust-gas(vapour)-air mixtures and mists.

This European Standard is not applicable for explosions of materials listed below, or for mixtures containing some of those materials:

- unstable materials that are liable to dissociate;
- explosive materials;
- pyrotechnic materials;
- pyrophoric materials.

NOTE For the listed materials expert advice is required.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

EN 1127-1:1997, *Explosive atmospheres — Explosion prevention and protection — Part 1: Basic concepts and methodology*

EN 13237:2003, *Potentially explosive atmospheres — Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres*

EN 13673-1, *Determination of the maximum explosion pressure and the maximum rate of pressure rise of gases and vapours — Part 1: Determination of the maximum explosion pressure*

EN 13673-2, *Determination of maximum explosion pressure and the maximum rate of pressure rise of gases and vapours — Part 2: Determination of the maximum explosion pressure rise*

EN 14034-1, *Determination of explosion characteristics of dust clouds — Part 1: Determination of the maximum explosion pressure p_{\max} of dust clouds*

prEN 14034-2, *Determination of explosion characteristics of dust clouds — Part 2: Determination of the minimum rate of explosion pressure rise $(dp/dt)_{\max}$ of dust clouds*

prEN 14034-3, *Determination of explosion characteristics of dust clouds — Part 3: Determination of the lower explosion limit LEL of dust clouds*

EN 14034-4, *Determination of explosion characteristics of dust clouds - Part 4: Determination of the limiting oxygen concentration LOC of dust clouds*

prEN 14491, *Dust explosion venting protective systems*

prEN 14994, *Gas explosion venting protective systems*

EN 26184-3, *Explosion protection systems — Part 3: Determination of explosion indices of fuel/air mixtures other than dust/air and gas/air mixtures (ISO 6184-3:1985)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1127-1:1997, EN 13237:2003 and the following apply.

3.1

HRD-suppressor

appliance containing an explosion suppressant, which can be expelled by the action of internal pressure

NOTE 1 This pressure may be stored pressure, or may be obtained by a chemical reaction such as the activation of an explosive or pyrotechnic device.

NOTE 2 HRD is the abbreviation of High Rate Discharge.

3.2

suppressant

substance contained in the HRD-suppressor which, when dispersed into a volume to be protected, can arrest or prevent a developing explosion in that volume

NOTE Three categories of suppressants are in general use, separately or in combination:

- powder suppressant;
- water suppressant;
- chemical suppressant.

3.2.1

powder suppressant

powder with recognised flame extinguishing properties such as products based on monoammonium phosphate, potassium bicarbonate or sodium bicarbonate

NOTE Such suppressants may contain additives to improve their flow properties and their effectiveness.